

REMARKS

The present Amendment is in response to the Office Action mailed December 13, 2005, in the above-identified application. Enclosed herewith is a Petition requesting a one-month extension of time for resetting the deadline for responding to the Office Action from March 13, 2006, to and including April 13, 2006.

As an initial matter, Applicants acknowledge and appreciate the Examiner's willingness to conduct a telephone interview for the present application on April 10, 2006. During the telephone interview, the Examiner and the undersigned discussed the Office Action, U.S. Patent No. 5,885,286 to Sherman et. al., and the scope of the claims in view of the Sherman reference.

In the present Amendment, Applicants have amended claims 1, 15, 16 and 71 and canceled claims 7-8, 14, 19, 23-35, 37 and 39-40. Claims 10, 21, 36, 38 and 41-68 were previously canceled. Thus, claims 1-6, 9, 11-13, 15-18, 20, 22 and 69-71 are pending in the present application.

In the Office Action, the Examiner rejected claims 1-6, 9, 11-13, 15-18, 20, 22 and 69-71 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,885,286 to Sherman, et. al. Referring to FIG. 8 thereof, Sherman discloses a multi-axial bone screw assembly 110 including a bone screw 111, a receiver member 112 and a set screw 114. The bone screw 111 includes a threaded shank 121 that passes through a screw opening 135 at a lower end of the receiver member 112. The receiver member 112 includes a rod channel 133 adapted to receive a stabilizing rod R. The assembly includes the set screw 114 having a threaded plug 155 with continuous threads, a driving head 156 with a tool recess 157 and a shear zone 158 between the threaded plug 155 and the driving head 156. After the rod R has been captured within the rod channel 133, the set

screw 114 is tightened so that a rod engaging surface 159 of the threaded plug 155 engages a top side of the rod R. The driving head 156 is designed to break away from the threaded plug 155 at a predetermined torque.

In contrast, referring to FIG. 12A thereof, the present application discloses a locking cap 220 having a pair of circumferentially opposed arcuate engagement flanges 284 and 286 that extend radially outwardly from cap body 280. Referring to FIG. 13, the opposed arcuate engagement flanges 284 and 286 are spaced from one another and cooperate with opposed arcuate engagement slots 294 and 296 formed in the opposed side walls 230 and 232 of head portion 222. Referring to FIG. 12B, in one embodiment, an axial post 298 couples the upper portion 220A with a lower portion 220B to facilitate relative rotational movement of the upper portion 220A relative to the lower portion 220B when the locking cap 220 is assembled with and locked in the head portion 222.

As discussed in paragraph [0055] of the present application, the locking cap "cannot be over-torqued. Thus, the damage often caused by over-tightening a conventional threaded locking mechanism, such as a set screw, is avoided. Furthermore, since the locking cap of the subject disclosure has a predetermined locked position, it is unlikely that it will be under-torqued or left in a loose condition after installation as is common with threaded set screws found in the prior art." Thus, the present invention seeks to avoid the continuous threads disclosed in Sherman and use a locking device that has "discontinuous opposed arcuate engagement flanges."

In response to the Examiner's rejection, Applicants respectfully assert that independent claim 1 is unanticipated by Sherman because the cited reference neither discloses nor suggests a device for securing a spinal rod to the spine including "a locking cap engageable with an interior camming

surface of the channel and an exterior surface of the spinal rod . . . , wherein the locking cap has discontinuous opposed arcuate engagement flanges." As is evident in FIG. 8 thereof, Sherman discloses a locking cap having continuous threads formed on an outer surface thereof. Sherman does not teach or suggest providing a locking cap having "discontinuous opposed arcuate engagement flanges" as required by claim 1 of the present application. For these reasons, claim 1 is unanticipated by Sherman and is otherwise allowable. Claims 2-6, 9, 12-13 and 69 are unanticipated, *inter alia*, by virtue of their dependence from claim 1.

Claim 11 is unanticipated by Sherman because the reference neither discloses nor suggests a locking cap "wherein the opposed engagement slots are each defined in part by inclined slot surfaces, with the angle of the inclined slot surface of one engagement slot being opposite that of the opposed engagement slot, and wherein the opposed engagement flanges are each defined in part by inclined flange surfaces, with the angle of the inclined flange surface of one engagement flange being opposite that of the opposed engagement flange." Claim 11 is also unanticipated by virtue of its dependence from claim 1, which is unanticipated for the reasons set forth above.

Independent claim 15 is unanticipated by Sherman because the cited reference neither discloses nor suggests a device for securing a spinal rod to the spine including "a locking cap receivable by the head portion along the vertical axis of the channel and having discontinuous opposed arcuate engagement flanges adapted to engage an interior surface of the channel and an exterior surface of the spinal rod."

Independent claim 16 is unanticipated by Sherman because the cited reference neither discloses nor suggests a device for securing a spinal rod including "a locking cap having discontinuous opposed engagement flanges engageable with an

interior camming surface of the channel and an exterior surface of the spinal rod upon rotation of the locking cap relative to the head portion." Claims 17-18, 20 and 70 are unanticipated, *inter alia*, by virtue of their dependence from claim 16, which is unanticipated for the reasons set forth above. Claim 20 is also unanticipated for the reasons set forth above with respect to claim 11.

Independent claim 71 is directed to the embodiment shown in FIGS. 12A and 12B of the present application, which shows a locking cap 220 having an upper part 220a and a lower part 220b coupled together for relative rotation by post 298. Independent claim 71 is unanticipated by Sherman because the cited reference does not disclose or suggest a device for securing a spinal rod including "a locking cap including an upper portion engageable with an interior surface of the head portion and a lower portion having an elongated recess for engaging an exterior surface of a spinal rod . . . , wherein the upper portion and the lower portion of the locking cap are coupled together by an axial post that facilitates relative rotational movement of the upper portion relative to the lower portion."

As it is believed that all of the rejections set forth in the Office Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone Applicants' attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

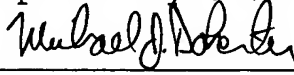
If there are any additional charges in connection with this requested Amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Application No.: 10/091,708

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Respectfully submitted,

By 

Michael J. Doherty

Registration No.: 40,592

LERNER, DAVID, LITTENBERG,

KRUMHOLZ & MENTLIK, LLP

600 South Avenue West

Westfield, New Jersey 07090

(908) 654-5000

Attorney for Applicants

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